

2 or 1 for protein sequences, or from 1 to 6 for nucleotide sequences. The default, if ktup is not specified, is 2 for proteins and 6 for nucleotides. For a further description of FASTA parameters. Alternatively, protein sequence alignment may be carried out using the CLUSTAL W algorithm as described by Higgins et al., 1996, Methods Enzymol., 266:383-402.

At page 58, at lines 4-6 delete the text beginning "Plasmid..." and replace with the following:

<u>Plasmid</u>	<u>ATCC Accession No.</u>	<u>Date Deposited</u>
M15 pREP (pQE-pmpE-Ct)#37	ATCC PTA-2462	Sept. 12, 2000
TOP10(pBAD-pmpI-Ct-Uni)#7	ATCC PTA-2461	Sept. 12, 2000

IN THE CLAIMS:

Please cancel Claims 5, 8-14, 25-30, 33-40, 50-56 and 60-72 without prejudice.

Please amend Claims 1-4, 6-7, 15, 31, 41 and 57-59 to read as follows:

1. (Once amended) An isolated putative membrane protein E (PMPE) polypeptide of a *Chlamydia spp.*, having a molecular weight between 90 and 115 kDa as determined by SDS polyacrylamide gel electrophoresis which protein specifically binds an antibody that specifically binds to a protein comprising the amino acid sequence of SEQ ID No.: 2.

2. (Once amended) The PMPE polypeptide of claim 1, wherein the *Chlamydia spp.* is *Chlamydia trachomatis*, *Chlamydia pneumonia*, *Chlamydia psittaci* or *Chlamydia pecorum*.

3. (Once amended) The PMPE polypeptide of claim 2, wherein the *Chlamydia spp.* is *C. trachomatis*.

4. (Once amended) The PMPE polypeptide of claim 1, which comprises an amino acid sequence of SEQ ID NO.:2, a sequence at least 70% identical thereto when % identity is determined using XBLAST program, score=50, wordlength=3, or an at least 8 amino acid fragment thereof which fragment specifically binds an antibody that specifically binds to a protein comprising the amino acid sequence of SEQ ID No.: 2.

AS 6. (Once amended) A peptide fragment of the PMPE polypeptide of claim 1, which fragment is at least 8 amino acids in length and specifically binds an antibody that specifically binds to a protein comprising the amino acid sequence of SEQ ID No.: 2.

7. (Once amended) The peptide fragment of claim 6 wherein said peptide fragment comprises the amino acid sequence of one of SEQ ID NO.:5-22.

A 9 15. (Once amended) A vaccine comprising a PMPE polypeptide of claim 1 and a pharmaceutically acceptable carrier or diluent.

A10
31. (Once amended) The vaccine of any one of claims 15 or 20 additionally comprising one or more immunogens selected from the group consisting of a lipid, lipoprotein, phospholipid, lipooligosaccharide, protein, attenuated organism and inactivated whole cell.

A11
41. (Once amended) A vaccine comprising one or more of an isolated PMPE polypeptide of a *Chlamydia spp.*, having a molecular weight between 90 and 115 kDa as determined in SDS polyacrylamide gel electrophoresis; or an isolated nucleic acid comprising a nucleotide sequence encoding an PMPE polypeptide of a *Chlamydia spp.*, said PMPE polypeptide having a molecular weight between 90 and 115 kDa as determined by SDS polyacrylamide gel electrophoresis; said vaccine further comprising one or more adjuvants or immunostimulatory compounds selected from the group consisting of alum, MLT, QS21, MF59, CpG DNA, PML, calcium phosphate and PLG.

A12
57. (Once amended) An isolated recombinant PMPE polypeptide produced by a method comprising culturing a host cell containing a nucleic acid molecule comprising the nucleotide sequence of SEQ ID No.:1 fused to a nucleotide sequence encoding a histidine affinity ((H)₆) domain under conditions suitable for expression of said PMPE polypeptide and recovering said recombinant PMPE polypeptide.

58. (Once amended) An isolated recombinant PMPE polypeptide produced by a method comprising culturing a host cell containing plasmid M15 pREP (pQE-pmpE-Ct) #37 obtainable from *E.coli* having ATCC accession No. PTA-2462 under

conditions suitable for expression of said PMPE polypeptide and recovering said recombinant PMPE polypeptide.

59. (Once amended) An isolated PMPE polypeptide produced by a method comprising culturing a host cell containing a nucleic acid molecule comprising a nucleotide sequence which encodes a PMPE comprising an amino acid sequence of SEQ ID No.: 2 under conditions suitable for the expression of a PMPE polypeptide and recovering said PMPE polypeptide.

Please add new Claims 73-78 as follows:

73. (New) An isolated recombinant PMPE polypeptide comprising a polypeptide encoded by a nucleic acid molecule comprising the nucleotide sequence of SEQ ID No.: 1 fused to a nucleic acid molecule encoding histidine affinity ((H)₆) domain.

74. (New) An isolated recombinant PMPE polypeptide comprising an amino sequence of SEQ ID No.: 2 fused to an amino acid sequence comprising a histidine affinity ((H)₆) domain.

A 13 75. (New) An antigenic composition comprising an isolated PMPE polypeptide of a *Chlamydia spp.*, having a molecular weight between 90 and 115 kDa as determined by SDS polyacrylamide gel electrophoresis, wherein the PMPE polypeptide comprises an amino acid sequence of SEQ ID No.: 2 or a fragment of said PMPE polypeptide which fragment is recognizable by an antibody that binds specifically to a polypeptide comprising an amino acid sequence of SEQ ID No.: 2, together with an adjuvant.

76. (New) An antigenic composition comprising an isolated PMPE polypeptide of a *Chlamydia spp.* having a molecular weight between 90 and 115 Kda as determined by SDS polyacrylamide gel electrophoresis wherein the PMPE polypeptide